User Manual
All-in-One Intelligent IR High Speed Dome Camera

SPD-1527IR

Please read the user manual carefully before operation.

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1. Product Introduction

1．1　Features

Strong Intelligence Function:

- Compatible with PELCO D ／ P, HIKVISION and DAHUA Multi-protocol.
- Recognize 2400, 4800, 9600 Baud Rate.
- Automatic recognition for RS 485 control protocol.
- Support 3D Positioning Function for the HIKVISION and DAHUA DVR.

Strong Horizontal and Vertical Rotation Function:

- Max. 360 degree/Sec. High speed pan tilt rotation.
- Based vector drive technology,guarantee the P/T function can be executed at minimum route and make the target distance be more closed. Therefore, it is more true and natural for us to view video.
- Adopt the advance motor ultrafine classification technology,
  make minimum rotation speed of pan tilt can reach the 0.05 degree/sec., make the video image more accurate and stable under high magnification times.

Presets,Trajectory Scan,Zones Scan,Continuious Scan

- Maximum 256 presets and every preset include magnification times of lens and angle position.
- It may record and display 4 trajectory scan route,it can include 100 units motion per trajectory.
- Set up the left and right border of specified zones,pan tilt zoom dome can rotate at specified speed.
- Call the specified special preset.can be 360°durative scan.

OSD English Menu

- Built-in OSD english screen menu,it can modify the info.and of parameter PTZ Dome via menu.
- Horizontal/Vertical angle magnification times of lens and presets can be displayed on screen.

PTZ Control

- Adopt RS485 protocol
- 360 degrees horizontal durative rotation, vertical 90 °rotation.Turn over 180° , continuous monitor ,no surveillance blind area.
- Horizontal speed 0.05-360 degrees, vertical speed 0.05 -180 degrees,it can adjust automatically as per lens zoom times.

1.2 Function

1.)Setup of address code

Any operation commands have the target address code,baud rate,control protocol for related high speed PTZ dome,single camera only can be committed to commands in conformity with relevant address code,baud rate and control protocol.Our high speed PTZ Dome camera can recognize camera address,baud rate and control protocol automatically.

2.)Focal length/rotation speed auto. configure technology.

When you adjust manually,if the focal length is too long,when you touch the PTZ keyboard joystick lightly under the high speed pan tilt rotation,it may let the video image move promptly,then will cuase the date lost.Based this,our IR High Speed PTZ Dome can adjust the horizontal and vertical speed according to the focal length,it makes the manual tracking target be more convenient.

3.)Turn over automatically

5. Clean

When you clean the covering of dome,please use dry and soft cloth or neutral cleanser to clean it.Don’t use the strong acid-base cleanser to clean it in order to avoid breaking the covering.

6.Must be sealed closely , do not spray water or liquid onto parts of camera ,doing so may cause damage.

7.Do not use the PTZ dome camera in extreme temperature or humidity environment.The temperature should be -25℃-50℃ and humidity<90%

8.Do not install the camera close to air outlet of air condition.

Camera lens will be misty because of water condensation under below conditions:

- Extreme temperature change.
- The room full of smoking or dust.

9. Do not locate the camera towards extremely bright objects such as sun and spotlight, as this may damage the CCD image sensor.

5. Trouble Shooting

5. 1 Trouble Shooting Diagram

Trouble	Possible Reason	Solution
No action and image when power on	Power cable is connected incorrectly	Correct the connection
	Power is broken	Change
	Bad connection	Eliminate the bad connection
Out of control after power up,with image	Incorrect baud rate and ID code	Re-set the DIP Switch.
	RS485 cable disconnect, short ciucuit or connect incorrectly.	Check RS-485 connection cable
	Incorrect RS485 cable wiring.	Check RS-485 connection cable
	RS 485 cable is cutted off	Check RS-485 connection cable
Video unstable	Video cable is bad connection	Eliminate the bad connection
	Power is not enough	Change

5.2 Attention Item

1. Transportation

Do not force, shake and marinate during transportation, storage and installation.

2.Installation

Please handle with care, do not press the camera and its' parts when you install,do not turn on power before you install the dome covering.

3.Power cable, Video cable and control cable.

Use shield wire and do not mix with other cables.

4.Electrical safety

Keep the PTZ dome camera or signal transmission wire away from high voltage equipment or cable (at least 50 meters), take lightning protection and surge protection.

User press the joystick of PTZ control keyboard when make the lens arrive bottom,then lens turn over 90° toward above after rotating horizontal 180 ° .Then you can view the back target and achieve 180° continuous surveillance.

4.)Reserve and call preset

Preset function is that store parameter such as pan tilt horizontal angle,slope angle and camera lens focal length into memory.If necessary,you can call this parameter and adjust pan tilt and camera lens to this position.User can store and call presets via using PTZ control keyboard and IR controller.This PTZ Dome has 256 presets.

5.)Lens control

（1）Focal length control

User can adjust the range of focal length via using PTZ control keyboard or matrix host machine,then will get the complete video or micro image.

（2）Focus control

System start to focus and zoom defaultly,then camera lens will focus to center around target view and keep clear image.It also can focus manually and reach the expected image effects.

When you are in control of manual focus,if you want to reset auto.

focus,you just shake joystick of PTZ keyboard.In addition,you may set a control command or call a preset to reset auto. focus.

6.) Iris control

User can adjust iris via using the PTZ controller keyboard to get the idea illumination of video.

7.)Night Vison Function（Color/ B/W）

The night vision camera can adjust the CCD illumination automatically according the light exchange under the color / B/W model.For example,when the light is sufficient during the day,it use general illumination to keep the color video.It will transfer to low illumination during the night automatically so that can display clear B/W video.

8.) Auto. Cruise

It can add some presets into auto. cruise section in turn via preset cruise preset sites.You just set command of 99 preset or use the idle motion to make the PTZ dome move continuously within certain space of time as per the turn of reserved presets.

9.)Trajectory scanning

Trajectory scanning is that store operation trajectory via menu,it can call the reserved scan route via No. 84,No. 85,No.86, No.87 command or idle motion.

10.)Continuous scanning

You just set command for NO. 98 preset or call it by idle motion,then you can scan circularly in horizontal position at certain speed.

11.)Intermittent scanning

You just set command for NO. 96 preset or call it by idle motion,then you can scan circularly at space of time in horizontal position at certain speed.

2.Installation Instruction

2.1 Wiring Diagram

led such as save power model and manual control model.

- < CURRENT THRESHOLD VALUE >:Use to display current thershold value.
- <BACK>: Back main menu.
- <EXIT>: Exit menu setting.

- <PRESET LABEL>: use to set that when you call presets,if the preset display on monitor.ON means preset displayed,OFF means preset undisplayed.
- < ZOOM >: Magnification power display,ON means display,OFF means undisplayed.
- < P/T DEG>: Vertical and horizontal angle display, ON means display,OFF means undisplayed.
- <BRIGHT DATA>:Light illumination display,ON means display, OFF means undisplayed.
- <IR DATA>:IR control data display,ON means display,OFF means undisplayed.
- <BACK>: Be back main menu
- <EXIT>: Exit menu setup

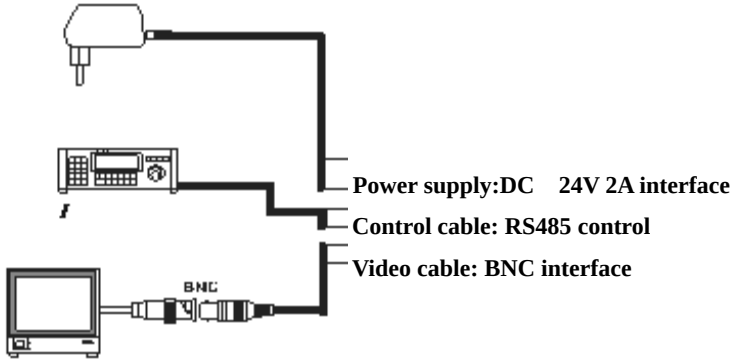
4.10 <IR Led Setup> menu

<IR Led setup menu>

IR SETTING	
IR MODE	AUTO.
IR ON ENS	220
IR OFF SENS	170
IR IRIS MODE	3
BACK	
EXIT	
CURRENT VALUE	250

<IR LED CONTROL SETUP>: Use to set control item of IR LED.

- < IR LED CONTROL MODEL>: Use to set control model of IR LED,such as : auto.,ON or OFF model.
- <OPEN IR LED THRESHOLD VALUE>: Use to set threshold value when IR LED turn on.
- <CLOSE IR LED THRESHOLD VALUE>: Use to set threshold value when IR LED turn off.
- <IR LED ILLUMINATION MODEL>: Use to set illumination model of IR



2.1.1 Power supply connection

Attention： Please check the voltage rating and electric current,it is as below,

Voltage Rating	Range of Voltage Rating	Electric Current
AC 24V / DC 24V	±5%	2A

2.1.2 Connection of control cable

PTZ control:connect RS-485 cable to PTZ control keyboard or DVR.If you control more than one cameras,RS-485 cable need to be setted parallel position.

Note： ①The RS-485 cable can be connected optionally

②Protocol and baud rate of PTZ control keyboard or DVR can be setted optionally③Some cameras in CCTV system should set different PTZ dome address

2.1.3 Video Connection

Use BNC plug to connect video signal cable.

3. Operation

Because different system platform operation is not complete same, so you should operate according to user manual, it has special requirements and operation method based different situation. Now only introduce the control method for PTZ dome when you use the PTZ keyboard.

1.)Self-check

When you turn on the power for PTZ dome, the camera will move in the horizontal and vertical direction. You need to zoom in and out lens to utmost then stop after the motion is achieved. You will be sure if the camera can be operated normally through self-check.

How to control the camera when they rotate in different direction:

When you locate a camera, you can control it via the joystick of keyboard.When you move the joystick to be right,the camera will move to right.When you move it in vertical direction,the camera will move in vertical direction.The camera will move in horizontal and vertical direction after you shake the joystick in diagonal direction.

2.)Setup of presets

Please set the presets as below,

(1)Locate a camera(please see user manual of PTZ keyboard to know details)

(2)Operate joystick of keyboard,zoom button,focus button,iris button to adjust video image of camera

(3)Press the arabic numerals button(please input the number of specified preset) +PRESET ,to store parameter of preset view.

Please call presets as below step,

(1) Locate a camera.

(2) Press arabic numerals button(please input the number of specified preset) +CALL, the camera will move to preset,the related zoom,focus and iris will be exchanged to setted parameter.

The parameter is as below,

NONE: Not execute any motion

PRESET CRUISE: Execute all presets cruise motion

CONTINUOUS SCANNING: Execute continuous scanning motion

INTERMITTENT SCANNING:Execute intermittent scanning motion

ZONE SCANNING: Execute zone scanning motion

Preset 31(Only locate alarm setup 1):Arrive NO.31 presets

Preset 32(Only locate alarm setup 2):Arrive NO.32 presets

Preset 33(Only locate alarm setup 3):Arrive NO.33 presets

Preset 34(Only locate alarm setup 4):Arrive NO.34 presets

Trajectory 1:Execute trajectory scanning route 1

Trajectory 2:Execute trajectory scanning route 2

Trajectory 3:Execute trajectory scanning route 3

Trajectory 4:Execute trajectory scanning route 4

- <BACK>: be back main menu
- <EXIT>: exit menu setup

4.9 <Display setup>Menu

<Display setup menu>

DISPLAY SETUP	
PRESET LABEL	ON
ZOOM	ON
P/T DEG	ON
BRIGHT DATA	OFF
IR DATA	OFF
BACK	
EXIT	

<DISPLAY SETUP>display setup: use to set display item of monitor

4.7 Cruise setup

Cruise setup menu

```
        CRUISE SETTING
   DWELL TIME<SEC.>          6
    PRESET LIST              1
  1    ON     0   OFF
1234567890 <PRESET 1-10>
11111111111
BACK
```

Diagram 4.7 Cruise setup Preset setup menu

Preset cruise is that set lens to execute presets scanning route automatically,as following,

- DWELL TIME<SECS.>: Cruise waiting time between different presets
- <PRESET LIST >: Choose the page of cruise preset,there are a total of 30 presets that make cruise,10 presets per page you can choose that has 3 pages and relevant parameter is 1,2,3,then press button OPEN to confirm.
- Confirm the preset of cruise and make cursor point 1234567890
  111111111

  1 means choose,0 means skip
- <BACK>: be back main menu
- <EXIT>: exit menu setting

4.8 <Alarm Setup>(action of alarm)menu

<Alarm Setup> action of alarm menu

```
        ALARM SETUP
ALARM  1  ACT      NONE
ALARM  2  ACT      NONE
ALARM  3  ACT      NONE
ALARM  4  ACT      NONE
BACK
EXIT
```

<Alarm setup> Action of alarm menu: use to set alarm

Form of preset function

Special Preset	Function
95 + CALL	Enter main menu
XXX + PRESET	Reserve preset xxx.
XXX + CALL	Call preset xxx.
83 + CALL	Delete all presets
84 + CALL	Call trajectory scanning 1
85 + CALL	Call trajectory scanning 2
86 + CALL	Call trajectory scanning 3
87 + CALL	Call trajectory scanning 4
UNDER THE MENU 96 + PRESET	Select different camera core and PAL and r NTSC signal system
96 + CALL	360 degree gap scanning
98 + CALL	360 degree continuous scanning
99 + CALL	Presets cruise

4. Setup of Menu

Next will intoduce operation of OSD menu.When you turn on the power for PTZ dom,the LCD monitor screen will display information as following,

Control protocol: Auto.

Serial ports: Auto.

Address of PTZ dome 1

Because different CCTV system has different operation method for PTZ dome.Now introduce that how to use PTZ controller keyboard to control OSD english menu.

1.)Set No. 95 preset then enter OSD english menu. OPEN (Iris on) is confirmation button, CLOSE (Iris off) is menu starting button.

2.)Enter menu:shake joystick and make cursor point to the certain memu,press button OPEN ,then enter menu.

3.)Selection of Function: Shake joystick of keyboard and make cursor point to the certain function option ,press button OPEN ,choose current function

4.)How to choose parameter: shake joystick of keyboard,choose parameter and press button OPEN to reserve current parameter.

5.)How to store setting: press button OPEN,reserve current setting that is valid under relevant commands.

6.)How to be back last memu:press button CLOSE to return back last menu that is valid under relevant commands.

7.)Exit menu: shake joystick of keyboard and make cursor point to the option "EXIT",then press button OPEN to exit OSD menu.

8.)Back to last menu: shake joystick of keyboard and make cursor point to the option "BACK",then press button OPEN to be back last menu.

4.1 Main Menu

The power is turned on for PTZ Dome,set No. 95 preset,then enter main menu.The screen will display as following,

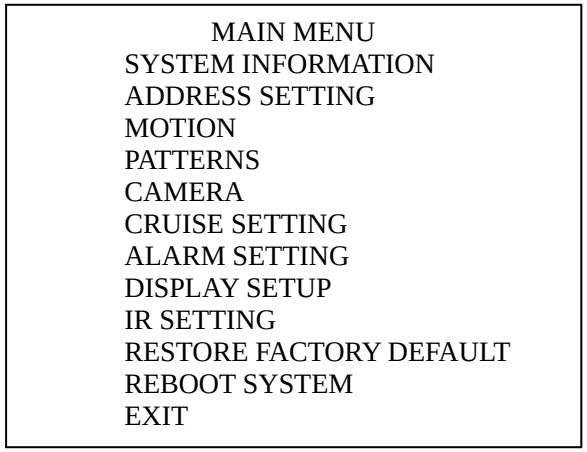


Diagram 4.1 Main Menu

Detailed explanation of main menu option

- <SYSTEM INFORMATION>: Shows system information.
- <ADDRESS SETTING>: Select and setup Soft/Hard address and Menu.
- <MOTION>: Set menu of presets

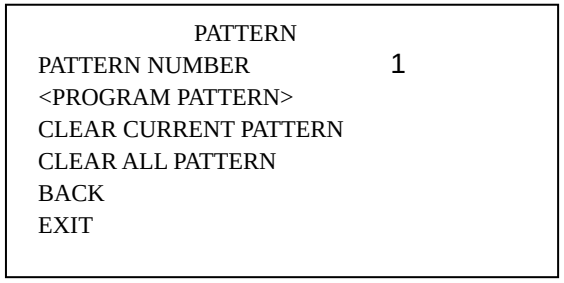


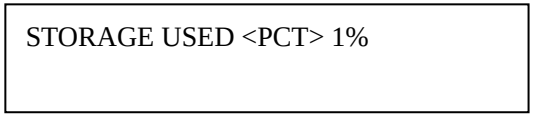
Diagram 4.5 Trajectory scanning menu

Trajectory scanning is used to set and clear trajectory scanning route.

- <PATTERN NUMBER>: Choose trajectory scanning NO.,the range of number is 1~4
- <PROGRAM PATTERN>: Set trajectory scanning and enter :

Diagram 4.5.1 Edit trajectory scanning route

Confirm trajectory scan start position and enter below diagram,



Shake joystick of keyboard and edit scanning route and motion,start to record from motion 1 and can record 100 motion at most,then press button OPEN will reserve this setting,then be back diagram 4.5,

- <CLEAR CURRENT PATTERN>: Clear related trajectory scan route
- <CLEAR ALL PATTERN>: Clear all trajectory route
- <Back>: Be back main menu
- <Exit>: Exit menu setting

4.6 Camera setup

Setting menu of camera:different lens has relevant parameter

Intermittent scanning:Execute intermittent scanning

Zone scanning: Execute zone scanning

Preset 1: arrive No.1 preset

Preset 8: arrive No.8 preset

Trajectory 1: Execute trajectory scanning route 1

Trajectory 2: Execute trajectory scanning route 2

Trajectory 3: Execute trajectory scanning route 3

Trajectory 4: Execute trajectory scanning route 4

- <SET PARKING TIME>: Time setting for executing parking time

Parameter range 15s,1 minute,2 minutes…59 minutes,1 hour…12 hours

- <SET PARKING ACTION>: Exit menu,within parking time,PTZ dome don't receive any commmands

Parameter explanation of parking action:

NONE: No any motion

Last motion: Reboot to latest motion automatically.

Preset cruise : Execute presets cruise(Be valid after presets are setted.)

Continuous scanning: Execute non-stop scanning

Intermittent scanning:Execute intermittent scanning

Zone scanning: Execute zone scanning

Preset 1: arrive No.1 preset

Preset 8: arrive No.8 preset

Trajectory 1: Execute trajectory scanning route 1

Trajectory 2: Execute trajectory scanning route 2

Trajectory 3: Execute trajectory scanning route 3

Trajectory 4: Execute trajectory scanning route 4

Back: Be back main menu

Exit: Exit menu setting

4.5 Trajectory scanning

Trajectory scanning menu

- < PATTERNS > : Trajectory scanning menu
- < CAMERA> : Lens setting menu
- < CRUISE SETTING>: Set presets scanning
- < ALARM SETTING> : Set action of alarm
- < IR SETTING> : Set menu for IR led
- < RESTORE FACTORY DEFAULT > : Restore factory setting
- < REBOOT SYSTEM > : Reboot systerm
- < EXIT> : Exit OSD menu

4.2 System information

System information menu

SYSTEM INFORMATION	
COM	9600,N,8,1
ADDRESS	1
SOFTWARE VERSION	V5.2
BACK	
EXIT	

Diagram 4.2 System information menu

System information menu: check current information of PTZ Dome.The detailed explanation is as below:

- < COM>: Show baud rate, parity bit,date bit and stop bit.
- <ADDRESS>:Shows current Camera ID for PTZ control, 0~255.
- < SOFTWARE VERSION >: Shows current software version
- < BACK>: Back main menu
- < EXIT>: Exit setting of Menu

Note: all item of system information menu cannot be modified under this menu.

4.3 Address setting

Address setting menu

ADDR SETTING	
ADDR TYPE	HARD
ADDR SOFT	255
ADDR HARD	1
BACK	
EXIT	

Diagram 4.3 ADDR SETTING

- ADDR TYPR: Choose “Addr Type”,then choose address from “Addr Soft”(0-255),press button “Exit” and camera reboot, address was changed to address of “ADDR SOFT”

4.4 Pan Tilt Setting

Pan tilt setting menu

MOTION	
<SET FRAME SCAN>	
POWER UP	NONE
PARK TIME	15s
PARK ACTION	NONE
BACK	
EXIT	

Diagram 4.4 Pan tilt setting menu

< SET FRAME SCAN>: setup LEFT/RIGHT extreme position between two presets.

Choose < SET FRAME SCAN> to enter :

FRAME SCAN	
SET SCAN POSITION	
Clear FRAME SCAN	
FRAME SCAN SPEED	16
BACK	
EXIT	

Diagram 4.4.1 SET FRAME SCAN

< SET FRAME SCAN SCOPE>：setup LEFT/RIGHT extreme position and choose to enter

SET FRAME SCAN
LEFT LIMIT POSITION
IRIS OPEN TOCONTINUE

Diagram 4.4.1.1 Setup LEFT extreme position of scan

Shake joystick of keyboard and choose the extreme position of left,press OPEN, confirm it and enter below diagram,

SET FRAME SCAN
RIGHT LIMIT POSITION
IRIS OPEN TO CONTINE

Diagram 4.4.1.2 Setup RIGHT extreme position of Scan

Shake joystick of keyboard and choose the extreme position of right,press OPEN, confirm it.Then reserve LEFT/RIGHT extreme position and be back to Diagram 4.4.1

- < CLEAR FRAME SCAN>: Delete FRAME SCAN SCOPE and enter,

CLEAR FRAME SCAN
WAIT

Diagram 4.4.1.2 Clear FRAME SCAN POSITION

Setup LEFT/RIGHT extreme position and be back diagram 4.4.1

- < FRAME SPEED SPEED>: Set scan motion speed of PTZ dome and when the number is more big,the motion speed is more quick.

<Back>: Back last menu

<Exit> : Exit menu

- <POWER UP>: Set menu and set the executed motion before not received any commands when PTZ dome turn on power. The parameter is as below :

NONE: No any motion

Preset cruise : Execute presets cruise

Continuous scanning: Execute non-stop scanning